Rotation.—Heald states that mixed and overlapping rotations were found in Meifa and Asfal al 'Ain but, from careful enquiries, the following appeared to be the most popular:—Lucerne two years, followed by millet and the fourth year tobacco. If tobacco was not sown, the land was planted with another variety of millet. In some villages where lucerne was not grown, the rotation simply included tobacco and millet with sesame the third year. 242

In the Wadi Maseila the fields are constantly changed. One year a certain part of the wadi bed will be cultivated, stick huts and erections for drawing up the water built, and when the crop is harvested the Beduins move on elsewhere, returning again another season. Thus we frequently passed remains of cultivation, disused mud aqueducts and tumbled-down huts.

Diseases.—Heald states, "Excepting for the caterpillar attacking the young millet and tobacco, the crops were remarkably free from pests and disease; I carefully searched for stem borer in the millet but could find none, and also for the scale in the few citrus trees."

Trees and other vegetation of economic importance.

The *'elb* (*Sidr. Zizyphus Spina-Christi*, L.) has many uses. Apart from its blossoms, which are said to give the good taste to the Du'an honey, its fruit called *dôm* is eaten extensively by the Beduins when dates are lacking. The beams, pillars and doors of Hadhramaut houses are made from the timber, and the supply and carriage of the trunks give much employment to the Beduins. It also supplies good firewood. It is a fodder tree, and the leaves are also used as a substitute for soap. 137 262 313 242 [388]

Sâr, a palm tree (*Hyphaene thebaica* (L.) Mart.), from which the Beduins gather the leaves called *sif* for transport to the towns, where they are made into mats, baskets, country string, etc. A popular drink called *nebîdh* is also procured from this tree. 137 314 285 272

The long-thorned *samr* (*Acacia spirocarpa* Hochst.) is perhaps the commonest tree in the Hadhramaut. It is a popular fodder for camels and is likewise eaten by goats. It supplies good firewood and a substance taken from the roots called *futukh* is used by fishermen for greasing their lines in order to make them strong. Another thorny tree, the *qeredh* (*Acacia senegal* Willd.), is also a common fodder. Its leaves are used for tanning skins and it is said that the Beduins make a drink from them which they liken to tea. 137 246 314 372 272

The *mukht* tree (*Grewia erythraea* Schweinf.), is used extensively for firewood and camel fodder. The leaves of the *arista* tree (*Canocarpus erectus* Juss.), which grows in the Wadi Maseila where it sometimes reaches a height of 50 to 70 feet, are dried for fodder, and the timber probably has its economic uses. I was told in Tarim of a large tree growing in Wadi Maseila the strong wood of which is used by carpenters; this may have been the *arista*. 137 314 246 372

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of the city. Before the gate is the Wādī Seded, where the sea has penetrated far inland and formed an inlet. Here on the beach the caravans camp as they travel to and from the interior. Hundreds of camels are kneeling in great circles, eating the food that lies in the centre. Other camels are being bathed and scrubbed down with sea-water, while still others are protesting with gurgling snarls against the treatment of some skin trouble or of big open wounds. There are donkeys here and there amongst them. Bedouins lie asleep wrapped about in their cloaks or sit round a small fire eating out of wooden bowls their porridge of crumbled bread mixed up with a little fat. Some are busy with the difficult work of loading: after the freights have been weighed by lifting and then divided, they are fastened on to the pack-saddles. Children are collecting into baskets the camel's dung which is of great value as fuel. The ground is swarming with the so-called camel-louse, which is really a sort of tick. The penetrating odour of the camels' urine and sweat hangs over this wide-spread, permanent bivouac.

We go inland along the bank of the Wādī Seded, which is here filled with sea-water, so as to cross, by making a big bend, behind the 1800 feet high rocky ridge of Makalla. On the left of the road, only a few miles from Makalla, there are groves of palm, with the white summer quarters of the Vizier and of the Sultan. Here is a spring from which, by means of a thin, iron pipe lying on the ground, water is carried to Makalla to provide the town with drink.

Two hamlets, el-Baqrên and Baqêrên, with some cultivated fields, lie close to the frontier of the Sultanate of Makalla. There are two fortified towers on the road manned by soldiers, and not far beyond Baqêrên there stands a whitewashed piece of rock. Against the high wall of primary rock, rising up each side of the road, two white marks have been made to show even in the mountain region, where the land is at peace and where at war. No vendetta may be carried on nor ancient feuds settled by arms in or around the town.

24:Meulen and Wissmann T-3 (1931)1932 MM2 Hadhramaut MM2

rock, in shape like a toadstool, and the whole caravan could find protection in its shade. The river was not far away and green bushes from which the camels might feed grew along its banks.

Our supply of dates and biscuits was beginning to run short. Our Bedouin companions were very frugal eaters: they had two meals a day, one during the afternoon rest and one at the night bivouac, when they baked a few underdone bread-cakes with a yellow flour of some sort. The taste of these was none too attractive and, what was worse, they lay heavy on the chest like an indigestible stone. Von Wissmann had always drunk the milk of our she-camel in the evening, but I had refused the drink, which had the penetrating odour of the animal's sweat. We were getting underfed and overexhausted. The inner tension and self-control demanded for the long negotiations and conversations at ʿAmd, in the Deyyin country, at Yebʿeth and Ṣidāra were beginning to take their revenge on my digestion. But we were obliged to go on and that day we marched till half past six in the evening and spent the night on a little plateau of rock among the granite mountains. During the day the Bedouins collect branches and dry shrubs and parched-up plants for the evening fire, on whose ashes they bake their bread and over which we make our tea. It is the best hour of the day; it brings us all together in a mood of good fellowship and of thankfulness for the completion of the day's hot and tiring journey. It was also the moment when our Bedouins smeared themselves carefully — arms, breast and neck — with *samn*. Their hair also was kept well greased. It struck us that the skin of our bodies, which perspired continuously and were seldom washed, felt stiff and grainy from the salt of evaporated perspiration. The Bedouins get rid of this unpleasant feeling by rubbing themselves with grease; moreover, the practice makes their skin more resistant against the sun's heat and the sudden coldness of the air in the evening. They told us that the skin became so pleasantly "moist" from the grease.